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(54) Title: CRYSTAL STRUCTURE OF HUMAN  $\alpha$ -GALACTOSIDASE

(57) Abstract: This invention pertains to the X-ray crystal structure of the human  $\alpha$ -galactosidase glycoprotein. More specifically, the invention relates to crystallized compositions of human  $\alpha$ -galactosidase and to crystallized complexes of human  $\alpha$ -galactosidase and its catalytic product  $\alpha$ -galactose. The invention further relates to a computer programmed with the structure coordinates of the human  $\alpha$ -galactosidase's active site wherein said computer is capable of displaying a three-dimensional representation of that active site. The invention also relates to methods for rational drug design based on the structural data for human  $\alpha$ -galactosidase provided on computer readable media, as analyzed on a computer system having suitable computer algorithms.

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